

Fragmentation or Differentiation: Questioning the Crisis in Psychology

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Abstract There is a recurrent discourse about the fragmentation of psychology and its crises as a science, which often leads to a disenchanted view about its future. To this discourse we oppose a developmental one, in which crises can be occasions for development, and in which development might imply differentiation. We first review why psychology can be said to be in crisis. We then situate the crisis in the pragmatics of doing psychology. Crises occur when psychologists have problems either working with other psychologists or with communities. We argue that collaborative research is a way to overcome these crises. Specifically we suggest three specific scientific activities that can lead to the development of psychology: collaborative research methods, the identification of nodal concepts that enable the bringing together of different approaches and disciplines, and the creation and maintenance of institutional spaces that enable creative, collaborative work.

Keywords Crises · History of psychology · Collaborative work · Development · Differentiation

There is a recurrent disenchanted lament about the science of psychology: it is in crisis because it has fragmented into traditions which follow their own questions and theoretical assumptions in isolation. These questions and assumptions have led to the development of such different methods and epistemologies that the idea of a shared

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object of research seems a distant memory. How can fMRI scanning and qualitative interviewing co-exist in the same discipline? On what epistemological plane are we able to connect the methodologies for measuring the excitation of single neurons with survey techniques for measuring the excitation of the public for a new technology?

The present article begins by acknowledging that psychology as a discipline faces something of a crisis. We consider two narratives of the crisis and the propositions to which they lead. The first version is that “the field is fragmented” (Yurevich 2009). We show why the metaphor of fragmentation is misleading. As an alternative, we propose a second narrative, in which fragmentation is reinterpreted as differentiation. Working through the implications of this second narrative, we suggest ways in which our current crisis can become an opportunity for the development of the discipline.

What is a Crisis?

From a developmental point of view, the evolution of sciences is seen as alternating between progressive, regular changes, and moments of massive reorganisation (Van Geert 2003). Crises then are necessary steps for further change. Sometimes resolution of the crisis causes the disappearance of the initial components. For example, in the developing child’s intellectual and social crises result in early modes of reasoning being supplanted (Piaget 1966). Other crises lead to differentiation. For example, a child who, after overcoming their initial lack of balance, learns to cycle has not developed a skill to replace walking but has differentiated their means of locomotion. It is a matter of perspective whether the disappearance of initial components or the growth of diversity after a crisis is positive or negative.

In the domain of the evolution of sciences, crises can also lead to both the extinction of sciences (e.g., the demise of alchemy and astrology (Graubard 1953)) or to more differentiation such as the proliferation of new sub-disciplines (e.g., the crisis in physics caused by the problem of fitting quantum mechanics into traditional theories, has spawned a range of sub-disciplines and theories (Stewart and Cohen 1999)). It is impossible to say, *a priori*, whether a crisis in a science might lead to its disappearance, or to more differentiation, and whether either is a good or bad solution.

Is There a Crisis in Psychology?

Different theories of history of sciences might question the very idea of a crisis in psychology. On the one hand, according to Kuhn’s (1962) theory of scientific revolutions, psychology has not yet even reached a mature crisis. Rather, it is in a state of pre-science, visible through its perpetually conflicting paradigms. Out of the philosophies of Descartes and Hegel there emerged empirical, rational, and processual paradigms within psychology (Marková 1982). And within psychology as a discipline, Wundt himself founded two separate traditions: an experimental psychology and a social psychology (*Völkerpsychologie*). According to Kuhn, only

once a clear paradigm emerges can psychology enter the stage of mature science. This new paradigm would be the basis for the accumulation of discrepant findings which would, in turn, become the seeds of a mature scientific crisis.

If one makes the rationalist assumption that knowledge within psychology should be internally consistent, and that there should be consensual progress towards a grand unifying theory of psychology, then we are in crisis. The crisis is the absence of such unity. But are we right to expect such unity? What is the basis for assuming that there is a grand unifying theory waiting to be found? How can we reconcile theoretical problems about the experience of time, empirical problems about how to measure the activity of single neurons, and applied problems of community mobilisation? Maybe these different traditions of research are as incommensurable as the problems they address (Dilworth 2008).

Taking a pragmatist perspective may help us clarify what kind of a crisis exists. According to pragmatism the value of a concept or a theory is given by what it enables us to do (Cornish and Gillespie, [under review](#); James 1890). Accordingly, there is a crisis in psychology if we cannot carry out the activities that we need to as psychologists. Our activities include writing, researching, teaching, and conversing with scholars, the public, and various professional groups. If we cannot complete these concrete activities then we could be said to be in crisis.

First, there is a crisis in the practice of research when different researchers cannot work together or communicate about their work. We all belong to psychological societies, or departments, or faculties, in which people are engaged in activities which are described in different terms, demand different research practices, have different goals, and entail different socio-political stances. A psychologist who needs an fMRI scanner for her research is engaging in a radically different activity to a psychologist doing in-depth interviews. There is a crisis when these two psychologists try to define the priority investments for their department (e.g., buying a second fMRI scanner, or enabling students to have more lectures on analysing interview data). There might also be a crisis if the department had to develop collaborations (e.g., the merits of collaborating with a pharmaceutical company as opposed to a local association for village history).

Second, we are in crisis because of the problems we confront. Social issues often require a plurality of knowledge and expertise. Consider, for example, the impact of longer life expectancy, or educating the children of migrants in a second language. For these phenomena, it is of great importance to understand what happens at the level of the brain, psychological experience, social interactions, and institutions. We need psychologists specialised in each aspect of these complex phenomena. However, when they meet, and when they try to coordinate their knowledge and activities, these scientists are quite likely to realise that it is difficult for them to communicate with each other, because their language, techniques, and construction of the object are different or even incommensurable.

However, the idea that the action of psychologists is in crisis should not be overstated. For each example of problematic action, one can point to instances of successful collaboration, teaching and applied work within communities. There are numerous examples of productive collaboration at the level of theory (Zittoun et al. 2003), clinical intervention (O'Neill and Gillespie 2008), community engagement (Fryer and Fagan 2003) and inter-cultural research (Cornish and Ghosh 2007).

Nevertheless, despite the many exceptions, one can say that there is often a crisis in coordinating our activities as psychologists. Our conceptual tools, our methodological approaches, our nomenclature, and our goals are incompatible (Leontyev 1977). The questions we have therefore to ask are, how can we describe and analyse the problem causing this crisis in psychology? And what can be done about it?

First Narrative: The Diagnostic of a Fragmented Field

Yurevich (2009), in his paper *Cognitive frames in psychology: demarcation and ruptures* (this issue), argues that the field of psychology is fragmented. He describes three dimensions of fragmentation:

The “vertical” disunity of psychology—with various schools such as cognitivism, behaviourism, and psychoanalysis, “horizontal” division into natural scientific and humanitarian psychology and “diagonal” division into research and practical psychology is compounded by the watering down of the foundations of scientific rationality, which in turn affects the cognitive status of psychology (Yurevich 2009, p. 2).

This metaphorical analysis of the field of psychology is elegant. However, as with any metaphor, it structures our conception of the phenomenon (Leary 1994; Zittoun et al. 2007b). Indeed, we want to suggest that some of the problems identified by Yurevich are more related to the choice of metaphor than the field of psychology. Perhaps the lack of order is not out there in the activities and networks of psychologists, but in the eye of the observer.

A description of the field as fragmented along three dimensions is a static description. It creates the image of a flat surface, divided in squares, each divided in two, so as to create small triangles. *Per definition*, these triangles can only touch their immediate neighbours, and mutual enrichment becomes impossible. Of course, Yurevich admits that there might be eclecticism and “cross-pollination” (Yurevich 2009). Yet the problem is that this apicultural way of overcoming fragmentation is contained in the agricultural metaphor, not by any necessity of the field itself.

There is a deeper problem with an analysis of the field as fragmented. Fragmentation is considered the key *symptom* of the crisis of psychology (Yurevich 2009). If there are symptoms, there is illness; and if there is illness, there is an ideal state of health. In this case, what would be the ideal healthy state of psychology? It seems that the underlying model of this analysis is that of a cumulative, objective, fact-seeking science—just like an idealised natural science. Yet today there are many who question whether science in general, and social science in particular, conforms to this idealised model of linear and progressive development (Foucault 1990; Lyotard 1984).

Even without the dream of a progressive natural science, the temptation of a “grand narrative” (Lyotard 1984) in which all the fragments would find their place might remain. Psychology today includes enquiries that range from the analysis of micro-electrical variation in brain activity to ideology. To speak about “fragmentation” is to assume that a coherent and logical “grand narrative” exists behind the

fragmented parts. But maybe there is no such grand scheme. Should we expect or desire a single unifying perspective that encompasses all kinds of psychological explanations from neurophysiological to ideological? As Hacker (1990, p.133) writes: “What may grow in the brain, e.g., a tumor, cannot grow in the mind, and what may grow in the mind, e.g., suspicion, cannot grow in the brain”. Maybe the different phenomena simply coexist. After all, apples and hammers coexist, as different things, but this does not make them “fragmented”. Maybe it is a question of perspective. At a mundane level of description, apples and hammers have little in common, but at an atomic level, they have much in common and participate in the plurality of forms that atoms can take. Such a description is relevant for researchers operating at an atomic level, but has little bearing if one is trying to build a cupboard.

Furthermore, the fragmentation narrative as a diagnosis of the crisis in psychology does little to provide a route out of this crisis. It is not very clear what steps might be taken in order to overcome the problems of fragmentation, or indeed what a healthier state for psychology would look like, and thus what we should be aiming towards.

Second Narrative: A Complex Developmental Process

There is the assumption that as we ‘uncover’ truths, as we go ‘behind’ the surface of things, we find interconnecting truths, which weave together into simple, beautiful, grand truths. But what if ‘behind’ things there is just branching complexity, behind which lies further complexity? This idea, discussed by mathematicians (Stewart and Cohen 1999), might be particularly apt for the field of psychology.

There is much evidence for this branching complexity thesis in psychology. For example, it is quite clear that each mode of observation of reality requires specific tools, conceptual means, communities, and so on (Säljö and Bergquist 1997). Various nomenclatures have been proposed to locate various levels of description within a bigger picture. Talking about psychological changes, some have identified different scales of processes: ontogenetic changes designate the development of a person or organism, microgenetic processes are the microadjustments occurring through interactions between the person or organism and her environment, and sociogenetic processes designate the ways through which the social world itself evolves (Duveen and Lloyd 1990). Others have conceptualised social processes at intrapersonal, interpersonal, institutional, intergroup, societal and ideological levels (Doise 1982; Perret-Clermont 2004). Each of these levels of analysis is a branching point for knowledge construction. Still others have engaged in the analysis of intrapersonal processes, and hence propose intra-psychological models of mind, such as in psychoanalytical (Freud 2001), cognitive (Sternberg 2002) or connectionist models (Clark 1993), or even, by looking at the biological basis of psychological activity, independently, or together with these (Damasio 2006). Because each of these levels of analysis requires precision, training and support, people have developed networks and scientific communities, with their specific tools, semiotic mediators, techniques, and conceptual systems. Is this just a disguised narrative of fragmentation, or can a different description of psychology lead to another

understanding of its dynamics and possible development? Instead of seeing psychology as simply fragmented, we might more accurately characterise it as organised according to the activities of researchers.

The Development of Psychology

Let us put these groups of people working together and developing their languages and tools in a historical perspective. How did psychology develop? How can it continue to develop? Firstly, it is clear that there is no isolated discovery in psychology. Even the most inspired and innovative theoreticians were the students of others and, as parts of networks, they were in constant dialogical engagement—either through face-to-face interaction, letters, or publications. Accordingly, all the texts written are only meaningful in relation to a community, a social audience and a universe of discourse. Consider, for example the group around Freud (Freud 1985; Freud and Ferenczi 1994; Freud and Jones 1995; Freud and Jung 1991), or the correspondence held by James with his colleagues around the world (James, 1992). Local scientific networks are a necessary condition for science to exist and for knowledge to progress. Locally, historically situated scientific networks are not accelerating fragmentation: they are the ways in which scientific work is done (Latour and Woolgar 1986).

Secondly, development—of an organism, individual, group, or body of knowledge—can be described in terms of differentiation (Valsiner 2005; Werner and Kaplan 1956). In the growing foetus, cells progressively specialise and develop new functions. In the history of science, philosophy has progressively differentiated into all the sciences and their respective subfields. Equally, as psychology has developed so it has differentiated. Subfields have been created, acquiring depth and precision. In this sense, differentiation *is* progress. If we observe the growth of different subfields of psychology, we see that they develop in traditions, install some figures as their ancestors and founders, identify basic principles and assumptions, and often develop their own institutions (i.e., journals, networks, institutes and societies). Given the level of analysis in which they specialise, these groups develop their language, tools, methods, and modes of diffusion. In most of these differentiated fields there thus emerges a locally organised hierarchical system. Through their activities, natural boundaries are created between the activities of one group and another. Boundaries are necessary for the groups to develop; they give consistency, maintain networks, stabilise and regulate tools, enable knowledge to be built on the basis of existing knowledge and thus to be inscribed in a history. Through time, these boundaries become what we call traditions. Scientific traditions thus designate the shared history and accumulated experience of an organised, bounded network, sharing an activity, institutions, artefacts and language. Hence traditions might offer the frame and the means for the exploration of new ideas and for dealing with new problems.

On the basis of this description, two problems for the development of psychology as a field become visible. Firstly, if boundaries that emerge to protect networks are necessary, boundaries might also become over-rigid and outdated. Indeed, boundaries are activated and reinforced in many occasions: in group interactions

(e.g., when social psychologists meet cognitive psychologists to talk about irrational behaviour in the stock market); when the resources allocated to groups becomes scarce (e.g., when health insurance only supports one type of psychotherapy to the exclusion of alternatives); or when questions of legitimacy are at stake (e.g., when one group questions the reliability or validity of research produced in an alternative tradition). In these conditions, when the survival of a network is at stake, boundaries often become defensive. In such situations, tradition is often used as a means to reinforce these boundaries, and as such, it can become an obstacle to progress. For example, a commitment to methodological individualism in cognitive psychology makes collective phenomena impossible to analyse, except as reduced to individual processes (Farr, 1996). Equally, a commitment to anti-individualism in discursive psychology or social representations research can have the effect of prohibiting discussion of individual experience or cognition (Zittoun et al. 2008). Yet, to understand people-in-society, attention to both individual and societal phenomena is required (Valsiner 2007).

There is another type of situation in which tradition boundaries become obstacles. While each bounded tradition is developing its own knowledge it may come to examine phenomena that have already been analysed by another tradition. Because of the logic by which traditions develop, and the way in which researchers are socialised into particular traditions, there may fail to be a productive interchange between different traditions. At this point, it also becomes clear that historical logic has created boundaries which are more problematic than beneficial. For example, why is reasoning studied by some in terms of rationality and others in terms of emotion when it is clear to most of us that reasoning entails both aspects? Considering this we might feel the need for a third position, or an overarching regulating principle, which would help to redefine traditionally maintained boundaries into boundaries which are more adequate for our joint goals (e.g., understanding reasoning).

The second problem that our developmental description of the field renders visible is that if there is a local organisation of groups, there is obviously no *a priori* general hierarchy of the science as a whole. There is no encompassing, overarching system, which might coordinate all these parts. There is no world psychological association broad enough to coordinate and organise all the activities of these groups into a consistent whole. And were there one, it is not certain that all its members would confer on it the authority it would need to reorganise the field (we see this problem in most existing international psychological associations). The question is, do we need such an overarching institution? Certainly it is one way of redefining group boundaries, but such top down redefinition risks making redefinitions on the basis of non-scientific concerns (e.g., politics, funding, ideology etc.). Accordingly, we want to suggest an alternative way to re-organise the boundaries and networks that structure the production of psychological knowledge, namely, a methodology of collaborative research.

Moving Forward Through Collaborative Work

The narrative we propose for psychology is a developmental one. According to this narrative, psychology is seen as developing through adjustments to both the

demands of its internal theoretical and methodological evolution, and the demands of the changing sociocultural environment. Our proposition is that psychologists from a specific scientific community perceive a ‘crisis’ when: they encounter other researchers who do not think that their theoretical framework is as fundamental; when their theoretical tools are insufficient for dealing with the problems they confront; and when they are unable to communicate and coordinate necessary activity with researchers from other traditions. Generally speaking, crises are occasions for reorganisation, differentiation and possibly the disappearance of some subsystems. Despite the potential inherent in crises, research communities often fear them, possibly because of a fear for the ontological status of their own tradition. Consequently, two responses are common: depression—because all actions seem promised to failure—or placing all the hope into a grand unifying solution that would solve all the tensions (sometimes both, as in Yurevich, this issue).

A third response, which we advocate, is to engage in collaborative research (Cornish et al. 2007a; Gillespie et al. 2006). Through collaboration around a partially shared object, communication and coordination, as well as the realisation of the differences between perspectives, becomes possible. Two forms of collaborative research are available. First, the analysis of a same set of data from different perspectives. Second, the actual construction of the data from different perspectives. In the first mode, a single shared object, dataset, or situation, is observed from different theoretical perspectives (for example Gillespie et al. 2006). In the second mode, the object is considered so complex that it requires diversified data collection. Typically, a case study of an institution requires data documenting general policies, representation, social interactions, individual trajectories, etc. (Cornish 2004a). Such collaborative work requires the coordination of activities led by more than one researcher around a shared object. In both cases, collaborative work is more than triangulation of perspective for validation purposes; rather, it constitutes the object as a complex and multifaceted phenomenon (Flick 1992).

Yet the need to work collaboratively produces the second type of crisis we have mentioned: the crisis that might appear when members of a research group are unable to coordinate their activities. This may be due to the lack of shared assumptions, concepts or goals. In each case, the problem needs to be diagnosed (Cornish et al. 2007b). If the collaboration is not coordinated around a shared object, other meeting points might be created by the collaborating team. Here, the reflection becomes epistemological rather than methodological. The idea is that one needs to find *nodal* concepts that enable the coordination of various theories and models. Nodal concepts enable the dialogue between different disciplinary traditions and the articulation of different levels of analysis. For example, the notion of “structure” during the 20th century enabled dialogue between linguists, anthropologists, and psychologists (Barthes 1953; Levi-Strauss 1958; Piaget 1968). In current sociocultural psychology, the notion of dialogicality has become a nodal concept enabling interchange between post-Vygotskian research, social representations research, Bakhtinian analysis, and psychotherapy (Cornish 2004b; Hermans 2002; Hermans and Dimaggio 2007; Marková et al. 2007; Marková 2007; Salazar and Grossen 2008). In what concerns the articulation of levels of analysis, notions such as ‘conflict’, ‘rupture’, and ‘transition’, can be used to describe ontogenetic, intrapsychological processes, interpersonal dynamics, intergroup processes, etc. (Zittoun

in press). Accordingly, these concepts give us an entry into the way in which these dynamics are mutually dependent, for example at the interface of interpersonal conflict and cognitive reelaboration, or of microgenetic and sociogenetic changes, etc. (Fogel 2006). In order to coordinate research communities and networks, common ground has to be found; specific mid-range notions and models—not too specific, not too abstract—can play a role as nodal notions. Nodal notions are one way to avoid the solidification of boundaries; in that sense they are “boundary-crossing” objects (Engeström et al. 1995; Tuomi-Gröhn and Engeström 2003).

Collaborative work as a mode of overcoming crisis in the development of psychology thus has methodological and epistemological implications. Collaborative work is an unpredictable process; it can be guided and facilitated but its actual outcomes are mostly unexpected. Collaborative work requires time and freedom, so as to enable authentic new knowledge to emerge (Zittoun et al. 2007a), but, for this time and freedom to exist, there is a third implication at the institutional level. Institutions are the environment for research, and collaborative boundary-redefining work requires supportive institutional conditions. For example, institutions need to accept that sometimes the production of knowledge is slow, and that the time between inputs and deliverable outputs is often longer than administrators appreciate. Formal or informal research networks that can be maintained beyond traditional or national divisions enable such work. Editorial initiatives such as the present journal (IPBS), or multi-disciplinary journals, enable such collaborations, for example in the form of review papers, or published dialogues between authors. The creation of a specific book series might offer the required space, and specific funding initiatives can support such work. Institutional spaces enabling real collaborative work are not impossible; but they are threatened by particular definitions of ‘prestigious’ research and by the race for measurable outcomes, financial benefit and research targets. Yet we, psychologists, have a role in creating, maintaining, adapting and transforming these institutional frames, and their local manifestations. The maintenance of adequate frames for thinking is therefore the responsibility of each of us.

An Optimistic View on the Future of Psychology

There is a tendency to be depressed when reflecting on the state of current psychology. Dreams of a grand narrative, and feelings of being overwhelmed by the range and quantity of literature, leads to the perception of fragmentation. To this narrative of fragmentation, we oppose a narrative of development. This leads us to a much more optimistic view of the evolution of the field, an evolution that occurs in our daily activities as researchers, and specifically in our encountering problems and crises, which, through productive engagement, leads to differentiation and bounded integration. The assumption that science simplifies the world as we experience it is surely mistaken. Science has made our experience of the world increasingly complex. The proliferation of universities and departments and sub-departments within universities is a visible materialisation of this process of differentiation. Lamenting this differentiation and calling it fragmentation risks a return to simpler modes of understanding.

If crises can be turned into occasions for development, our main proposition is to engage in various forms of collaborative work. We have shown three aspects of our work as researchers or practitioners on which we can have an impact: our methodological practices, our epistemological choices, and the institutional strategies that we encourage. We can create the conditions in which we learn to coordinate perspectives, methodological expertise, experiences and traditions. Hence, a solution to the crisis in psychology can emerge through bottom-up *work*, through which we create links beyond ruptures, redefine disciplinary boundaries, and open new roads for understanding and action, all the while keeping our lament for simpler modes of understanding in check, and recognising that knowledge proceeds through differentiation.

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